

Relating hog management practices to parasite infection on organic and pastured pig farms

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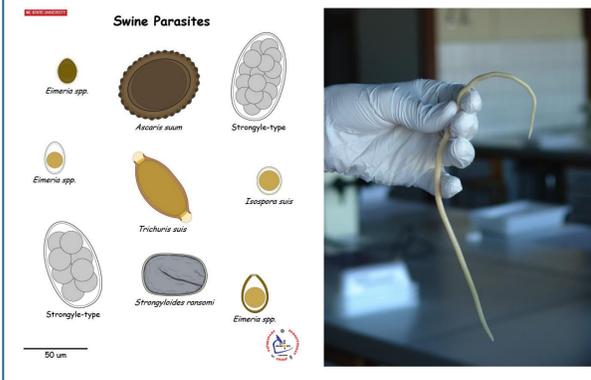
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Introduction

Swine parasites are a pervasive issue on hog farms. Organic and pastured pigs are **more likely to be infected with parasites** and **harbor more parasite species** at greater concentrations than pigs raised conventionally indoors. Bedded floors and outdoor access that are required by the NOP are major sources of parasite contamination.

Swine parasite infections result in **economic losses** to farmers due to reductions in productivity, weight gain, and feed efficiency.



Methods

Swine parasite prevalence was measured on nine farms in Pennsylvania where hogs were being raised organically and/or on pasture.

Participating swine farms were USDA certified organic, or followed organic practices, including:

- Hogs had outdoor access and bedded floors
- Hogs did not receive any chemical prophylaxes to prevent parasites

Parasite prevalence was measured by analyzing fecal, bedding, and soil samples for parasite eggs.

Management data was collected from each farm at the time of sampling, including housing type, herd size, type of outdoor access, and any natural anthelmintics used.

Research Objectives:

Measure parasite prevalence on organic and pastured pig farms

Analyze the relationship between parasite infection and management practices

Results

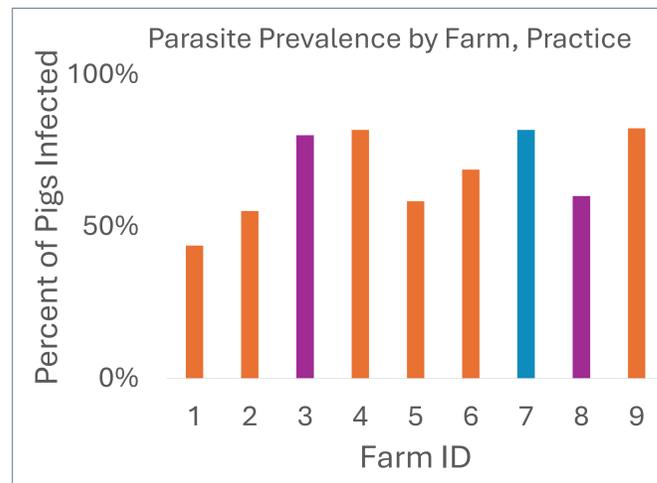


Figure 1. Bar plot of parasite prevalence on nine farms in Pennsylvania, raising hogs that were certified organic (blue), not certified organic but on certified organic land (purple), or not certified organic and not on certified organic land (orange).

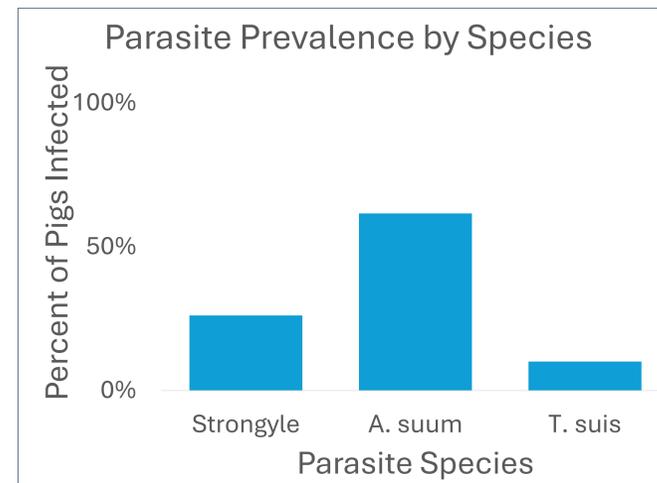


Figure 2. Bar plot of parasite prevalence of three major parasite species on organic and pastured pig farms in Pennsylvania

Table 1. Comparison of parasite prevalence between farms that implemented different management practices. Significantly different values are highlighted in orange.

	Y	N
Use Natural Anthelmintics	60.4%	79.4%
Implement Biosecurity Measures	75.6%	75.0%
Use Bedding	65.3%	78.5%
Raising Hogs >6 Years	80.3%	52.9%
Compost Manure	78.2%	66.7%

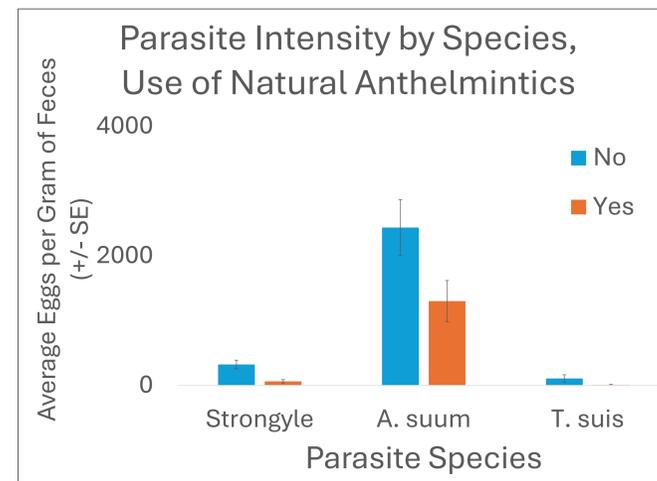


Figure 3. Bar plots of parasite intensity of three parasite species (Strongyle, A. suum, and T. suis) on farms where natural anthelmintics were (orange) or were not (blue) used. Significantly more parasite eggs per gram of feces (epg) were recovered from farms where natural anthelmintics were not used for Strongyle parasites and A. suum.

Conclusions

100% of farms had pigs infected with parasites

Percent of pigs infected with parasites ranged from **43.8 – 82.4%**

Ascaris suum was the most prevalent parasite species found in organically raised hogs

Some management practices, such as the use of natural anthelmintics and time raising hogs had **significant impact on parasite prevalence**

Farms that did not use natural anthelmintics had **higher parasite intensity**

Citations

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